

REMARKS

Applicants have cancelled claims 8 and 17 and amended claims 1, 6, 9, 10, 15, 18, 19, and 25 and have added new claims 27-31 as set forth above. No new matter has been added by way of these amendments. Applicants note with appreciation the Office's indication that claims 6, 15, and 25 are distinguishable over the prior art of record. In view of the above amendments and the following remarks, reconsideration of the outstanding office action is respectfully requested.

The Office has objected to claim 6 is objected to because the claimed "reflectance spectra" of claim 6 lacks antecedent basis in the indicated base claim 4. Additionally, the Office has rejected claims 15 and 25 under 35 U.S.C. 112, first paragraph, asserting that claims 15 and 25 state a maximum spectral shift of about ± 0.5 nm for a temperature change up to about 700 degrees Centigrade, whereas the specification merely discloses a maximum spectral shift of about ± 0.5 nm for a temperature change up to about 100 degrees Centigrade. Accordingly, Applicants have amended claims 6, 15, and 25 to correct the antecedent basis problem and 35 U.S.C. 112, first paragraph problem and have also rewritten these claims in independent form. In view of the foregoing amendments and remarks, the Office is respectfully requested to reconsider and withdraw this objection and rejection under 35 U.S.C. 112, first paragraph. Additionally, since there are no rejections of claims 6, 15, and 25 based on the prior art of record, claims 6, 15, and 25 are now believed to be in condition for allowance.

The Office has rejected claims 1-5, 7, 9-14, 16, 19-21, 24, and 26 under 35 U.S.C. 102(e) as being anticipated by US Pre Grant Publication No. 2002/0192680 to Chan et al. (Chan) and has rejected claims 8, 17, 18, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chan. The Office asserts Chan teaches a method and system for controlling one or more temperature dependent properties (namely reflectance spectra, paragraph 58, page 5) of a structure (a photonic band-gap microcavity, paragraph 58, page 5), comprising: heating (with a heating system that heats) at least a portion of a photonic band-gap structure (paragraph 76, page 7, wherein the photonic band-gap structure is silicon layers of a microcavity); and oxidizing (with an oxidizing system that oxidizes) the at least a portion of the photonic band-gap structure during the heating (paragraph 76, page 7) to alter at least one temperature dependent optical property of the photonic band-gap structure (paragraph 58, page 5). Additionally, the Office asserts discloses: two or more first silicon layers; and two or more second silicon layers, wherein each of the first silicon layers adjacent one of the second silicon layers forms a period and wherein each of the second silicon layers has a

higher porosity than the adjacent first silicon layer (page 3, paragraph 34); wherein two or more of the periods adjacent each other form a stack (stacks 10 including upper stack 12 and lower stack 14), wherein the stack is heated and oxidized (paragraph 76, page 7) to alter at least one temperature dependent optical property of the stack (namely reflectance spectra, paragraph 58, page 5). Further, the Office acknowledges Chan does not teach that the heating comprises annealing the at least a portion of the photonic band-gap structure, but asserts Chan teaches a rather slow process of heating (over a 10 minute span, paragraph 76, page 7) and thus the Office presumes in view of this it would have been obvious to anneal at least a portion of the photonic band-gap structure of Chan.

Applicants have cancelled and incorporated the annealing from claim 8 into amended claim 1 to recite, “annealing at least a portion of a photonic band-gap structure,” have cancelled and incorporated the annealing system from claim 17 into amended claim 10 to recite, “an annealing system that anneals at least a portion of a photonic band-gap structure”, and have amended claim 19 to recited, “wherein the stack is annealed and oxidized to alter at least one temperature dependent optical property of the stack.” As the Office has acknowledged, Chan does not teach that the heating comprises annealing the at least a portion of the photonic band-gap structure. Accordingly, Chan does not anticipate claims 1, 10, or 17. Additionally, the above-identified patent application and the Chan reference were, at the time the invention was made, owned by, or subject to an obligation of assignment to, the same person (i.e. University of Rochester). Accordingly, Chan is not prior art with respect to the above-identified patent application under 35 U.S.C. § 102(e)/103. Therefore, in view of the foregoing amendments and remarks, the Office is respectfully requested to reconsider and withdraw the rejections under 35 U.S.C. § 102(e)/103(c).

In view of all of the foregoing, Applicants submit that this case is in condition for allowance and such allowance is earnestly solicited.

Respectfully submitted,

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